

WHAT IS CLAIMED IS:

*Sub a1* 1. In a system providing one dataset in communication with another dataset, a method for synchronizing datasets comprising:

5 receiving a request specifying synchronization of information records of a source dataset with information records of a target dataset;

determining a synchronization set by:

(i) determining which, if any, information records have been previously transmitted to the target dataset but no longer exists at the source dataset, and

10 (ii) determining which, if any, information records have been added to or modified at the source dataset since the source dataset was last synchronized with the target dataset,

wherein each information record of the source dataset is assigned a globally unique identifier for identifying said each information record at both the source dataset and the target dataset; and

15 based on said synchronization set, synchronizing information records of the source dataset with information records of the target dataset by:

(i) using said globally unique identifiers, deleting from the target dataset any information records which have been previously transmitted to the target dataset but no longer exist at the source dataset, and

20 (ii) using said globally unique identifiers, updating the target dataset so that said target dataset includes those information records determined to have been added to or modified at the source dataset since the source dataset was last synchronized with the target dataset.

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2. The method of claim 1, wherein each dataset comprises a database table having a plurality of data records.

3. The method of claim 1, wherein each dataset comprises an electronic address book listing contact information.

5 4. The method of claim 1, wherein each dataset comprises an electronic schedule listing scheduling information.

5. The method of claim 1, wherein said globally unique identifiers are created by the system regardless of whether the source dataset includes existing record identifiers.

10 6. The method of claim 5, wherein said globally unique identifiers are maintained in a record map stored apart from the source dataset.

15 7. The method of claim 1, wherein each said globally unique identifier for each record comprises a timestamp which is assigned to the record when the record is initially processed by the system.

8. The method of claim 1, wherein each globally unique identifier is a 32-bit value.

20 9. The method of claim 1, further comprising:  
synchronizing the information records of the target dataset with information records of the source dataset by designating the source dataset as the target dataset, designating the target dataset as the source dataset, and repeating said determining step and said synchronizing step.

25 10. The method of claim 1, wherein said synchronization set comprises a delete order specifying particular information records to delete at the target dataset.

11. The method of claim 10, wherein said delete order includes a list of globally unique identifiers for particular information records to delete at the target dataset.

5 12. The method of claim 1, wherein said synchronization set comprises an extraction record specifying particular information to add to or modify at the target dataset.

13. The method of claim 12, wherein said extraction record includes at least one globally unique identifier together with field information for the particular information to add to or modify at the target dataset.

10 14. The method of claim 1, further comprising:  
excluding certain information records from participating in synchronization by applying a user-defined filter.

15 15. The method of claim 14, wherein said user-defined filter comprises an outbound filter applied to information records prior to creation of the synchronization set.

16. The method of claim 14, wherein said user-defined filter comprises an inbound filter applied to information records after creation of the synchronization set.

20 17. The method of claim 14, wherein said user-defined filter comprises a user-supplied filtering routine supplying filtering logic.

25 18. The method of claim 1, wherein said target dataset resides at a remote location relative to the source dataset.

19. The method of claim 18, further comprising:  
after creating the synchronization set, transmitting said synchronization set to said remote location.

20. The method of claim 19, wherein the synchronization set is transmitted to the remote location using an electronic messaging communication protocol.

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21. A synchronization system comprising:

5 means for connecting a first device having a first dataset to a second device having a second dataset;

means for determining information of said first and second datasets which requires synchronization, said means including:

10 (i) means for determining for each dataset information which has been previously received from the other dataset but which no longer exists at the other dataset, and

(ii) means for determining for each dataset information which has been added or modified at the other dataset since the other dataset was last synchronized with said each dataset; and

15 means, responsive to said determining means, for synchronizing said first and second datasets.

22. The system of claim 21, wherein at least one of said devices is a hand-held computing device.

20 23. The system of claim 21, wherein at least one of said devices is desktop computing device.

24. The system of claim 21, wherein said means for connecting includes a Transmission Control Protocol/ Internet Protocol (TCP/IP) connection.

25 25. The system of claim 21, wherein said means for synchronizing operates to provide bi-directional synchronization of the datasets.

26. The system of claim 21, wherein said information of said first and second datasets comprises data records and wherein said means for determining include means for assigning to each data record a globally unique identifier created by the system for uniquely identifying each data record regardless of which dataset it appears.

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27. The system of claim 21, further comprising:  
filter means for selectively blocking synchronization of certain types of information.

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28. The system of claim 27, wherein said filter means operates based on how old information is.

29. The system of claim 27, wherein said filter means operates based on particular information content.

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30. The system of claim 21, further comprising:  
electronic mail transport means for enabling synchronization of remote datasets.